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Comparison of Personality Dimensions, Mental Toughness, and Social Skills of Female Students Athletes (Team-Individual) and Non-Athletes

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ABSTRACT

The present study was to investigate and identify personality dimensions of individual and team athletes and to compare the level of social skills and mental toughness of individual and team athletes with non-athletes. 210 high school students of Tehran City (70 individual athletes, 70 team athletes, and 70 non-athletes) participated in the research. The participants were asked to fill out the "Social Skills" and "Mental Toughness" questionnaires as well as Eysenck Personality Scale. Various statistical indices and method were applied for data analysis including mean, standard deviation, and t-test. The results indicated that there is a significant difference between individual athletes, team athletes, and non-athletes in mental toughness, social skills, and personality dimensions. It can be concluded from the results that personality characteristics of individual and team athletes are different from non-athletes.

Keywords: personality, Eysenck Model, mental toughness, social skills, sport psychology.

INTRODUCTION

The structure of personality has been specified based on different models. The 3D Model of Personality [6] which included the dimensions of extroversion, neuroticism, and psychoticism, and the Five-Factor Model of Personality [4] which included the dimensions of neuroticism, extroversion, openness, agreeableness, and responsibility are of the most valid and famous models of personality with theoretical, empirical, and research support [10, 15]. Research findings on the relationship between the Five-Factor Model of Personality and sports exercises [19, 22] have shown that sport exercises are correlated with less neuroticism, higher extroversion, and higher responsibility. Numerous research studies on the 3D Model of Personality sport activities are correlated with one or more personality dimensions, that is, less neuroticism, higher extroversion, and less psychoticism [1, 28].

Enjoying different degrees of personality traits affects emotions, feedbacks, and behaviors. For instance, people with high scores in neuroticism are more prone to experience fear, sorrow, anger, and sense of guilt [10, 19]. In contrast, people with higher scores in extroversion are generally happier, more vivacious, energetic, optimistic, and active [22].

Beck (1983) introduced sociotropy and autonomy as two personality constructs that affect the psychological function of the individual. Sociotropy or social dependence refers to one's investment in positive interaction with others and maintaining social relationships. This personality construct consists of the beliefs, feedbacks, and goals that direct the individual toward others and make them rely on these relationships for acceptance, intimacy, support, and dignity [3]. Sociotropic people achieve their goals through interpersonal relationships and are highly motivated to maintain their relationships with others. Autonomy refers to the person's investment in preserving and increasing their independence, mobility, freedom of choice and action, goal achievement, and personal success [3]. Autonomous people achieve their goals and avoid failure by stepping away from others and they seek to increase their control over their environment and others. There have been various studies regarding the two constructs of sociotropy and autonomy in the field of sport psychology.

Eysenck et al. (1982) are of the opinion that there is no explanation for the similar personality traits that exist in team and individual athletes. Although this suggestion is based on a considerable theoretical support, it is almost left without any research and empirical confirmation. Studying the personal traits of athletes, whether team or individual, enables sport advisors and trainers to act more judiciously in findings talents, to play an active role in the process of choosing the proper sport for volunteers from the very beginning, and take proper interventional measures by recourse to explanatory models based on research findings. These consequences justify the necessity of carrying out the research. Moreover, if one considers personality as a combination of actions, thoughts, emotions, and attitudes of an individual, the constituents of personality may differ in different people. Kobasa (1988) defines mental hardiness as a combination of beliefs regarding one self and the world comprised of the three dispositions of commitment, control, and challenge. He regards mental hardiness as a belief that immunizes the person against external and internal pressures. In fact, this characteristic is the ability to properly process internal and external stimuli. The concepts of mental hardiness should not be merely summarized into special powers for tolerating mental stress, rather the presence of this construct moves the individual forward in difficult situations and helps them to successfully cope with threatening incidents. Mental hardiness is the ability for correct understanding of the surrounding world and making proper decisions about oneself.

Golby and Sheared (2004) studied psychological hardiness at different levels of rugby league and showed that there is a positive relationship between mental hardness and athletes' performance and that athletes at a high standard level have a significantly high level of hardiness components (commitment, control, and challenge) and negative energy control and attention control as two of the components of mental hardiness (i.e. self-confidence, negative energy control, attention control, visual control, motivation, positive energy, and attitude control). Cold et al. (2002), in a study for evaluating the psychological characteristics of Olympics champions, defined hardiness as a mental skill that can play a significant role in enhancing sport performance. Neil et al. (2002) studied the effects of psychological hardiness and its components along with skill level on the intensity and direction of competitive anxiety and self-confidence. The findings support the hypothesis that elite athletes have higher levels of mental hardiness. Generally, it must be noted that hardy individuals are more likely to evaluate stressful situations as an opportunity for challenge rather than as threatening. They have higher commitment toward

their job and themselves, feel that they have a great control over their lives, and they evaluate stresses as potential opportunities for change [13]. According to the views of Precival and Carr (2005), sport activity plays a significant role in physical and social development besides providing physical health and it leads to high social expression in children. Thus, these children often have high levels of social skills. Arise (2004) studied the two groups of athlete and non-athlete students and showed that athlete students had higher sociability-extroversion and self-evaluation of their welfare in comparison with non-athlete students.

The concept of social skills has defined in various forms. Hollinger (1987) considers social skills as necessary for having positive relationships with others and being accepted by them. Gresham (1981) defines social skills as behaviors that maximize reinforcement and minimize punishment. Schlundt and McFall (1985) believe that social skills are specific component processes that enable the individual to behave in a way that would be judged by others as a decent. Similarly, Schneider et al. (1985) define social skills as a means for connecting the individual to its environment and believe that this means is used for starting and continuing a formative and healthy relationship with peers as an important part of mental hygiene.

Considering these definitions, it can be gathered that social skills are behaviors who development can contribute to the effective and beneficial function of the individual in the society [16]. Social skills are appreciated as one of the most important childhood achievements [12]. Social skills such as cooperation, assertion, self-control, and responsibility are observable learned behaviors that enable the individual to effectively interact with others and avoid unreasonable social reactions [24].

Accordingly, the purpose of the present research is to study and identify the personality traits of individual and team athletes and to compare social skills and mental toughness of these athletes with non-athletes. Considering the limitation of empirical findings in this context, the present research is exploratory and studies and compares the personality traits of athletes without posing any hypothesis.

MATERIALS AND METHODS

The present research is causal-comparative. In this research, the personality dimensions, mental toughness, and social skills of female student athletes (team-individual) and non-athletes of Tehran City.

Participants

The participants of the present research are 210 female students of different high-schools in Tehran City who were selected using multistage cluster sampling. Of this total number, 70 students were team athletes, 70 students were individual athletes, and 70 students were non-athletes. After providing necessary explanations regarding research purposes, they participated in the research and filled out the "Social Skills" and "Mental Toughness" questionnaires as well as Eysenck Personality Scale. The average age of the participants was 17.16 years for the athletes on the whole ($SD=2.23$), 17.20 for the team athletes ($SD=2.40$), 17.18 years for the individual athletes ($SD=2.50$), and 17.11 for the non-athletes ($SD=2.30$). The frequency and percentage of different sports were: 32 basketball players (45.71%), 22 volleyball players (31.42%), 16 football players (22.85%), 30 swimmers (42.85%), 15 table-tennis players (21.42%), and 25 runners (35.14%).

Measurement Material

Mental Toughness Questionnaire: It was developed by Potgieter et al. (1995). This questionnaire is a self-report pencil-and-paper scale whose reliability was calculated in the present research as 0.68 using Cronbach's alpha.

Social Skills Questionnaire: Matson Evaluation of Social Skills with Youngsters (1983) is used in the present research which has 62 questions evaluating the social skills of 4-18 years old children. Cronbach's alpha was applied in this study to examine the reliability of the social skills scale and it was calculated to be 0.72.

Eysenck Questionnaire: This questionnaire includes 54 yes-or-no questions and it investigates three factors in an individual each of which involves several questions: impulsiveness (19 questions), adventurism (19 questions), and empathy (16 questions) (Eysenck and Eysenck, 1977). So far seven editions of this questionnaire have been presented and the last edition is assayed in the present research.

Data Analysis

Independent t-test was used to determine the relationship between normally distributed quantitative variables and dichotomous qualitative variables and analysis of variance was applied to determine their relationship with qualitative variables. Mann-Whitney U test was applied to determine the relationship between non-normal variables and dichotomous qualitative variables and Kruskal-Wallis test was used to determine their relationship with multimode qualitative variables. Further, Kolmogorov-Smirnov test was used to ensure the normal distribution of data.

RESULTS

The results in table 1 show that there is a significant difference between team and individual student athletes and non-athletes in mental toughness ($P \leq 0.01$). Moreover, a significant difference is also observed between the three groups in commitment, control, and challenge ($P \leq 0.05$).

Table 1. A summary of the single-factor analysis of variance in the three groups (team and individual athletes and non-athletes) with regards to mental toughness

Variable	Group	Sum of Squares	df	Mean Squares	F	Sig
Commitment	Between-Group	235.23	2	154.12	3.32	0.035
	Within-Group	7858.695	207	36.66		
Control	Between-Group	245.23	2	123.25	4.23	0.015
	Within-Group	6188.24	207	28.89		
Challenge	Between-Group	298.21	2	147.25	7.215	0.001
	Within-Group	4515.21	207	21.36		
Total	Between-Group	2244.653	2	123.32	7.213	0.001
	Within-Group	32148.88	207	155.36		

The results in table 2 show that there is a significant difference between team and individual athletes in mental toughness ($P \leq 0.01$); that is, team athletes had a higher level of mental toughness in comparison with individual athletes and non-athletes. Moreover, the component of commitment was higher in team athletes than non-athletes and control and challenge was higher in team athletes in comparison with individual athletes and non-athletes. Further, no significant difference was observed between team athletes and non-athletes in mental toughness.

Table 2. A summary of the post hoc test for two-by-two comparisons of the means of the three groups in mental toughness

Variable	Group	Individual	Non-Athlete	Mean
Commitment	Group	1.45, 0.152	2.7*, 0.112	31.56
	Individual	-	1.36, 0.236	33.13
	Non-Athlete	-	-	32.1
Control	Group	2.58*, 0.18	2.35*, 1.12	36.8
	Individual	-	2.258, 0.85	35
	Non-Athlete	-	-	35.89
Challenge	Group	6.12*, 0.12	2.85*, 0.02	40.21
	Individual	-	1.58, 0.13	40.21
	Non-Athlete	-	-	38.21
Total Score	Group	5.54*, 0.2	7.9*, 0.001	110.12
	Individual	-	2.36, 0.25	108.69
	Non-Athlete	-	-	108.32

* $P \leq .01$ **Table 3. A summary of the single-factor analysis of variance in the three groups (team and individual athletes and non-athletes) with regards to social skills**

Variable	Group	Sum of Squares	df	Mean Squares	F	Sig
Proper Behaviors	Between-Group	943.22	2	807.23	4.335	0.008*
	Within-Group	23563.25	207	101.23		
Improper Behaviors	Between-Group	89.21	2	356.23	4.365	0.008*
	Within-Group	14556.21	207	47.89		
Pride	Between-Group	654.21	2	305.69	5.36	0.011*
	Within-Group	87025.45	207	58.36		
Total	Between-Group	605.32	2	2450.35	4.568	0.001*
	Within-Group	8707.878	207	487.25		

* $P \leq .05$ **Table 4. A summary of the post hoc test for two-by-two comparisons of the means of the three groups in personality dimensions**

Variable	Group	Individual	Non-Athlete	Mean
Impulsiveness	Group	1.05, 2.152	4.7*, 1.11	11.06
	Individual	-	5.66*, 0.36	3.03
	Non-Athlete	-	-	12.12
Adventurism	Group	0.85, 0.11	1.35*, 0.12	16.2
	Individual	-	4.258*, 0.85	12
	Non-Athlete	-	-	30.89
Empathy	Group	4.12*, 0.12	1.85*, 0.02	14.21
	Individual	-	0.58, 0.33	15.21
	Non-Athlete	-	-	38.23
Total Score	Group	1.540, 1.22	1.9, 0.003	90.12
	Individual	-	1.66, 1.00	98.69
	Non-Athlete	-	-	101.32

* $P \leq .05$

The results in table 3 show that there is a significant difference between student athletes (team and individual) and non-athletes in social skills ($P \leq 0.05$). Further, there is a significant difference between the student athletes (team and individual) and non-athletes in the factors of

social skills, where this difference is significant for the factors of proper behaviors, improper behaviors, and aggressive, pride, and jealousy behaviors ($P \leq 0.05$).

The results in table 4 show that there is a significant difference between team and individual athletes in personality dimensions ($P \leq 0.05$).

DISCUSSION AND CONCLUSION

The findings of the present research showed that the mean score of athletes in the personality traits of impulsiveness and adventurism was relatively lower than the non-athlete participants. This finding is consistent with the results of previous research [1, 21] and can be explained as follows. Sport as a collection of systematic behaviors entails more liveliness, vivacity, and activity [5] and less anxiety, depression, apprehension, fear, and bafflement [4, 16]. It appears that the ability to control anxiety is one of the characteristics of athletes. In contrast, De Coupier *et al.* (1993) carried out a meta-analysis of 25 studies and observed no significant difference between professional and non-professional athletes.

Further, there was a significant difference between individual and team student athletes and non-athlete in mental toughness. That is, the mean score of team athletes in mental toughness was higher than individual athletes and non-athletes. The results of Cold *et al.* (2002), Hatton and Evans (2002), and Golby and Sheared (2004) were in line with the results of the present research suggesting that mental toughness improves sport performance in athletes. In explaining this finding, one can say that in team sports the individual has more opportunities than individual athletes and they require greater effort for progress and achieving fame and that is the reason why they exhibit more mental toughness.

The results of the present research also revealed that there is a significant difference between individual and team athletes and non-athletes in social skills. That is, the mean score of team athletes was higher than individual athletes and non-athletes and they have higher levels of proper social behaviors, less improper behaviors, and more pride and aggression. The mentioned findings are consistent with the results of Pascarella *et al.* (1995) who showed that social skills are at a higher level in athletes than non-athletes. Moreover, sport activities, in particular team sports, develop social skills of athletes by developing their self-efficiency and increasing the students' communicative abilities. Further, physical activities enhance social expression and turns into a powerful tool for reinforcing their social skills. Considering these findings and considering the fact that in team sports there is a broader sphere for establishing social relationships, it can be inferred that team athletes have more social skills than individual athletes. Furthermore, in team sports the athlete has more opportunities for attracting attention of the team members and they need to put more effort in comparison with their teammates; that may be why the level of aggression, jealousy, and pride is higher in team athletes than individual athletes and non-athletes. Steinberg (2004) showed in his research that team athletes are more competitive than individual athletes. Half (2005) also showed that motivation plays an important role in sport competitions and this issue is more clearly observed in the performance of team athletes.

Of the limitations of the research one can mention the studied samples who voluntarily participated in the research, the lack of exhaustivity of the studied individual and team sports, and failure to study other possible moderator variables. It must also be mentioned that the present research only includes the men and cannot be generalized to women. One of the important methodological problems that makes psychological test in sports difficult is using them for participants that are young. In principle, psychological tests are developed for use among

individuals who are familiar with the words and terms used in the test or those who have understood and experienced the phenomena under question. It is thus imperative to identify the valid psychology tests that are applicable in the school age and to determine their validity and reliability with respect to the ecological conditions of Iran. Nonetheless, each of the limitations in turn restrains the generalize ability of research findings and necessitates caution in discussed interpretations.

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